

What's New in the Guidelines

(Last updated June 11, 2020)

Key Updates to the Guidelines

Special Considerations in Children

This section now includes a preliminary description of multisystem inflammatory syndrome in children (MIS-C), a condition that has been associated with COVID-19 in children and young adults. This section will be updated as more data become available.

Potential Antiviral Drugs Under Evaluation for the Treatment of COVID-19

The recommendations for using remdesivir, chloroquine, and hydroxychloroquine to treat COVID-19 have been revised based on data from recently published clinical trials and observational cohort studies. This section and Table 2a now include detailed summaries of the study results. The revised recommendations are listed below, and the rationale for these recommendations is discussed in the text.

Remdesivir

Recommendation for Hospitalized Patients with Severe COVID-19:

- The COVID-19 Treatment Guidelines Panel (the Panel) recommends the investigational antiviral agent remdesivir for treatment of COVID-19 in hospitalized patients with $\text{SpO}_2 \leq 94\%$ on ambient air (at sea level) or those who require supplemental oxygen (**AI**).
- The Panel recommends remdesivir for treatment of COVID-19 in patients who are on mechanical ventilation or extracorporeal membrane oxygenation (ECMO) (**BI**).

Recommendation for Duration of Therapy in Patients with Severe COVID-19 Who Are Not Intubated:

- The Panel recommends that hospitalized patients with severe COVID-19 who are not intubated receive 5 days of remdesivir (**AI**).

Recommendation for Duration of Therapy for Mechanically Ventilated Patients, Patients on ECMO, or Patients Who Have Not Shown Adequate Improvement After 5 Days of Therapy:

- There are insufficient data on the optimal duration of therapy for mechanically ventilated patients, patients on ECMO, or patients who have not shown adequate improvement after 5 days of therapy. In these groups, some experts extend the total remdesivir treatment duration to up to 10 days (**CIII**).

Recommendation for Patients with Mild or Moderate COVID-19:

- There are insufficient data for the Panel to recommend for or against remdesivir for the treatment of patients with mild or moderate COVID-19.

Chloroquine or Hydroxychloroquine

- The Panel **recommends against** the use of chloroquine or hydroxychloroquine for the treatment of COVID-19, except in a clinical trial (**AII**).

New Sections of the Guidelines

Acute Kidney Injury and Renal Replacement Therapy

In this new subsection of Care of Critically Ill Patients with COVID-19, the Panel recommends continuous renal replacement therapy (CRRT) in critically ill patients with COVID-19 who have

acute kidney injury and who develop indications for renal replacement therapy (**BIII**). If CRRT is not available or not possible due to limited resources, the Panel recommends prolonged intermittent renal replacement therapy rather than intermittent hemodialysis (**BIII**). The primary rationale for these recommendations is to reduce the risk of transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to health care workers, since there is no evidence that one modality is more beneficial than another.

Testing for SARS-CoV-2 Infection

This section was added to discuss the use of virologic and serologic testing for SARS-CoV-2. This section includes:

- Information on virologic testing (i.e., molecular diagnostic and antigen testing for SARS-CoV-2), with the following recommendation:
 - The Panel recommends that a molecular or antigen test for SARS-CoV-2 should be used to diagnose acute SARS-CoV-2 infection (**AIII**).
- New information on the role of serologic testing in diagnosing and screening for COVID-19. Current serologic assays have limitations in their performance and their ability to determine whether a patient is immune to SARS-CoV-2 infection. In light of these limitations, the Panel:
 - **Recommends against** the use of serologic testing as the sole basis for diagnosis of acute SARS-CoV-2 infection (**AIII**).
 - **Recommends against** the use of serologic testing to determine whether a person is immune to SARS-CoV-2 infection (**AIII**).

Additional Updates to the Guidelines

Oxygenation and Ventilation

In this section, the Panel added the following recommendations for the use of awake prone positioning in critically ill patients who are not intubated:

- For patients with persistent hypoxemia despite increasing supplemental oxygen requirements in whom endotracheal intubation is not otherwise indicated, the Panel recommends considering a trial of awake prone positioning to improve oxygenation (**CIII**).
- The Panel **recommends against** using awake prone positioning as a rescue therapy for refractory hypoxemia to avoid intubation in patients who otherwise require intubation and mechanical ventilation (**AIII**).

Interleukin-1 Inhibitors

New clinical data from a single-center case series and a single-center retrospective cohort study that evaluated the use of anakinra to treat of COVID-19 have been added. There is no change to the Panel's recommendation for interleukin-1 inhibitors.

Interleukin-6 Inhibitors

New clinical data from a prospective, open-label study of tocilizumab have been added. There is no change to the Panel's recommendation for interleukin-6 inhibitors.